IN THE CLAIMS:

1 1. (CANCELLED)

1 2. (PREVIOUSLY PRESENTED) The method of Claim 7 wherein the step of deciding

2 comprises the step of, if the router does not receive a response at all within a predeter-

3 mined time, deciding that the peer router does not support the new TTL mode of opera-

4 tion.

1 3. (CANCELLED)

1 4. (PREVIOUSLY PRESENTED) The method of Claim 7 wherein the new TTL mode of

2 operation is defined by BGP TTL Security Hack (BTSH).

1 5. (PREVIOUSLY PRESENTED) The method of Claim 4 wherein the first predeter-

2 mined value of the TTL parameter is 255.

1 6. (PREVIOUSLY PRESENTED) The method of Claim 7 wherein the second predeter-

2 mined value of the TTL parameter is 1.

1 7. (PREVIOUSLY PRESENTED) A method for allowing a router to efficiently deter-

2 mine a time-to-live (TTL) configuration of a peer router in a computer network, the

3 method comprising the steps of:

4   automatically determining which TTL mode of operation the peer router supports

5 by sending an initial Border Gateway Protocol (BGP) message from the router to the peer

6 router, the initial BGP message including a first predetermined value of a TTL parameter;

7   if the router receives a positive acknowledgement of the initial BGP message

8   from the peer router, determining that the peer router supports exchanges of messages

9   using a new TTL mode of operation; and

10   if the router receives a negative acknowledgement of the initial BGP message

11   from the peer router, deciding that the peer router does not support the new TTL mode of

12   operation, and switching to an old TTL mode of operation by resending the initial BGP

13   message with a second predetermined value of the TTL parameter, and subsequently,

14   upgrading the peer router to the new TTL mode of operation,

15   rebooting the peer router, thereby destroying an existing session

16   between the routers,

17   establishing a new session by sending messages with the first pre-

18   determined value of the TTL parameter, and

19   communicating between the routers using messages with the first

20   predetermined value of the TTL parameter.

1   8-12. (CANCELLED)

1   13. (PREVIOUSLY PRESENTED) The apparatus of Claim 15 wherein the means for

2   deciding comprises:

3   means for deciding that the peer router does not support the new TTL mode of

4   operation, if the router does not receive a response at all within a predetermined time.

1   14. (PREVIOUSLY PRESENTED) The apparatus of Claim 15 wherein the new TTL

2   mode of operation is defined by BGP TTL Security Hack (BTSH).

1   15. (PREVIOUSLY PRESENTED) Apparatus adapted to allow a router to efficiently de-

2   termine a time-to-live (TTL) configuration of a peer router in a computer network, the

3   apparatus comprising:

4   means for sending an initial Border Gateway Protocol (BGP) message from the

5 router to the peer router, the initial BGP message including a first predetermined value of

6 a TTL parameter;

7   means for determining that the peer router supports exchanges of messages using

8 a new TTL mode of operation, if the router receives a positive acknowledgement of the

9 initial BGP message from the peer router;

10   means for deciding that the peer router does not support the new TTL mode of

11 operation, if the router receives a negative acknowledgement of the initial BGP message

12 from the peer router, and for switching to an old TTL mode of operation by resending the

13 initial BGP message with a second predetermined value of the TTL parameter;

14   means for upgrading the peer router to the new TTL mode of operation;

15   means for destroying an existing session between the routers;

16   means for sending messages with the first predetermined value of the TTL pa-

17 rameter; and

18   means for communicating between the routers using messages with the first pre-

19 determined value of the TTL parameter.

1   16. (CANCELLED)

1   17. (CURRENTLY AMENDED) The computer readable storage medium of Claim 20

2 wherein the program instruction for deciding comprises one or more program instructions

3 for, if the router does not receive a response at all within a predetermined time, deciding

4 that the peer router does not support the new TTL mode of operation.

1   18. (CANCELLED)

1   19. (CURRENTLY AMENDED) The computer readable storage medium of Claim 20

2 wherein the new TTL mode of operation is defined by BGP TTL Security Hack (BTSH).

20. (CURRENTLY AMENDED) A computer readable storage medium containing ex-
ecutable program instructions for allowing a router to efficiently determine a time-to-live
(TTL) configuration of a peer router in a computer network, the executable program in-
structions comprising program instructions for:

automatically determining which TTL mode of operation the peer router supports
by sending an initial Border Gateway Protocol (BGP) message from the router to the peer
router, the initial BGP message including a first predetermined value of a TTL parameter;

if the router receives a positive acknowledgement of the initial BGP message
from the peer router, determining that the peer router supports exchanges of messages
using a new TTL mode of operation; and

if the router receives a negative acknowledgement of the initial BGP message
from the peer router, deciding that the peer router does not support the new TTL mode of
operation, and switching to an old TTL mode of operation by resending the initial BGP
message with a second predetermined value of the TTL parameter, and subsequently,

upgrading the peer router to the new TTL mode of operation,

destroying an existing session between the routers,

sending messages with the first predetermined value of the TTL
parameter, and

communicating between the routers using messages with the first
predetermined value of the TTL parameter.

21-25. (CANCELLED)

26. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein deciding further
comprises, if a response is not received within a predetermined time, deciding that the
peer router does not support the new TTL mode of operation.

27. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein the initial message
is a Border Gateway Protocol (BGP) routing protocol message.

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1   28. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein the new TTL mode

2   of operation is a BGP TTL Security Hack (BTSH).

1   29. (PREVIOUSLY PRESENTED) A method comprising:

2   sending an initial message to a peer router before a session is established with the

3   peer router, the initial message including a first predetermined value of a time-to-live

4   (TTL) parameter that makes use of the TTL parameter;

5   if a positive acknowledgement of the initial message is received from the peer

6   router, determining that the peer router supports exchanges of messages using a new TTL

7   mode of operation; and

8   if a negative acknowledgement of the initial message is received from the peer

9   router, deciding that the peer router does not support the new TTL mode of operation and

10   switching to an old TTL mode of operation by resending the initial message with a sec-

11   ond predetermined value of the TTL parameter, and subsequently,

12   upgrading the peer router to the new TLL mode of operation,

13   rebooting the peer router, thereby destroying an existing session be-

14   tween the routers,

15   establishing a new session by sending messages with the first predeter-

16   mined value of the TTL parameter, and

17   communicating using messages with the first predetermined value of

18   the TTL parameter.

1   30-33. (CANCELLED)